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Service-Learning with the Mentally Ill: Softening the Stigma

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Stigmas toward those who have mental illnesses are wide-spread and detrimental to the health and well-being of those suffering from these debilitating conditions, and to society as a whole. Stigma-reducing programs are plentiful but many are only marginally effective. In this paper we describe and evaluate a course in Psychopathology that included service-learning and reflection activities as central course components. Compared to a control group, service-learners' attitudes toward the mentally ill were more uniformly positive and compassionate after they completed the course. We discuss these results from a broad service-learning perspective.

Negative attitudes or *stigmas* toward those who have mental illness are real, painful, and damaging. Graf and colleagues (2004) reported that for people with mental illnesses, experiencing negative social stigma is strongly associated with a lower overall quality of life. According to the United States Substance Abuse and Mental Health Services Administration (SAMHSA), negative stigmas discourage people with mental illness from getting mental health treatment; keep them from getting good jobs and advancing in the workplace; lead to fear, mistrust, and violence; result in inadequate insurance coverage; and can lead to prejudice and discrimination (National Mental Health Information Center, 2008). Stigmas against the mentally ill are common in today's society. Johnstone (2001) observed that these negative views are "deeply ingrained (and often structurally reinforced) societal attitudes of fear, ignorance, and intolerance" (p. 204), making them extremely difficult to modulate.

The mainstream media may play a part in formulating and perpetuating negative attitudes toward those with mental illnesses. For example, despite the fact that those with mental illness are much more likely to be victims of crime, they are most often portrayed on television and in the movies as the perpetrators of crime (Eisenberg, 2005). Widely distributed news coverage of the small minority of people with mental illness who do commit heinous crimes, along with mainstream media's pervasively negative representation of those with mental illnesses, is common and often times sensationalized (e.g., Lawson & Fouts, 2004; Stuart, 2006). For example, The NBC News Corporation (NBC News, 2008) recently reported an account of a man who drowned his three young children in a hotel bathtub in Rockville, Maryland. He was embroiled with his ex-wife in a bitter custody battle when he took the childrens' lives and then attempted to take his own. World-wide news accounts of this tragic circumstance were quick to report that he had a "history of mental problems." The only evidence they cited detailing the presence of mental illness was that he had been seen "sleeping in his car" and engaged in the practice of "bringing strangers to his home."

Reports such as these may have long-standing and wide-reaching effects on how the general public views those who struggle with mental health issues. The mentally ill tend to be characterized as dangerous, violent, unintelligent, isolative, and impersonal often resulting in negative views and attitudes toward them that may translate into discrimination and/or prejudicial practices. For instance, Page (1977) found that researchers responding to classified advertisements for apartments or rooms for rent, when posing as a person with a mental illness, or on behalf of a person with mental illness, were "refused rooms for rent significantly more often that were persons using no mental illness identification" (p. 85). In fact, they were discriminated against equally often as researchers feigning to be criminals soon to be released from prison. Society's biases and stigmas directly impact those with mental illness in many ways.

In a UK survey of people with mental illness, Stuart (2006) noted that over half of mental health consumers reported that stigma from negative media coverage had a deleterious effect on their own mental health. One third of the respondents reported that

their natural and informal social support networks (i.e., friends, family members, etc.) had withdrawn their support following negative media coverage of mental illness. These respondents put off applying for jobs, abandoned plans to do volunteer work, and experienced hostility from neighbors or local communities following these events. The general public, using readily available media accounts as a primary source of information, has historically approached those with mental illness with fear, distrust, and dislike (e.g., Cumming & Cumming, 1957; Nunnaly, 1961). Such attitudes impact the quality of life and the availability of effective treatment for those with psychiatric problems.

Research on the various factors that influence an individual's positive or negative views of mental illness is not new. Age, gender, socioeconomic status, experience with people who have mental illness, level of education, race, ethnic background, and other variables have all been explored thoroughly. However, as is often the case with complex behavior, results from these studies are often mixed and sometimes contradictory. Many studies have focused on three core variables: education about mental illness, exposure to people with mental illness, and extended contact with people who have mental illnesses.

Trute and Lowen (1978) found the amount of contact a person has with those who have mental illness is associated with more positive attitudes toward the mentally ill as a whole. But contact alone may not be sufficient. Sellick and Goodear (1985) found that simple exposure did not seem to matter as much as one's age and level of education. Counterintuitively, they found that older and less educated people had a more tolerant attitude toward those who were mentally ill. Conversely, in a Canadian sample, Stip, Caron, and Mancini-Marie (2006) found that younger, more educated people had more tolerant and understanding views than older and less educated citizens. Once again, the data are confusing and sometimes contradictory. Age, level of education, and contact appear to be important variables, but what about education specific to mental illness?

The general consensus is that education about mental illnesses is associated with more positive attitudes toward those who have these conditions. Intuitively, the more one knows about mental illness and the people who have them, the more tolerant, understanding, and sympathetic one is. However, studies that examined education as a mediating factor report disparate results (see Malla & Shaw, 1987). The type of educational experience, whether combined with personal contact, and whether the contact occurs in a supportive or non-supportive environment, may also play a crucial role. Jaffe, Maoz, and Avram (1979) found that education combined with hands-on experience in a hospital environment that was warm, accepting, and optimistic brought about greater reductions in stigmas and negative stereotypes than either education or hands-on experiences alone. Further, they found that education and hands-on experience were even more successful than hands-on experience in a facility where negativity and authoritarian attitudes abound. However, Phelan and Basow (2007) found that expressed empathy toward those with mental illness was more predictive of decreased desire for social distance than was any type of educational experience about mental illness. They speculated that more sustained contact with people who have mental illness is what likely leads to more empathy and compassion.

In an attempt to tease out the effects of education versus exposure to people with mental illness, Wallach (2004) studied the impact on different types of educational experiences on students' views and attitudes toward those with mental illnesses. She compared the attitudes of students in a semester-long Psychopathology course to the attitudes of students in a survey psychology course who received limited discussion of mental health issues within the context of a chapter in a textbook. Some of the participants in the Psychopathology class received course content only, some participated in course experiences along with orientations of and visits to mental health facilities, and some students received course experiences, orientations and visits, and provided extended volunteer service with people afflicted with mental illness.

Wallach (2004) found that those students in the Psychopathology course who volunteered for an extended time showed the greatest reduction in negative attitudes toward people with mental illness. Students in the survey psychology course evidenced relatively little change. Those in the Psychopathology course-only group demonstrated small and temporary changes in their negative attitudes while those in the Psychopathology course who toured and visited mental health facilities actually became more negative in their views.

Wallach (2004) concluded that education about psychopathology and mental illness may serve to change negative attitudes among college students, but the effect may be somewhat temporary. She argued that to be effective in altering attitudes and perceptions, "experience is an important vehicle for change" (p. 238) and to be most effective, the experiences should be "voluntary, prolonged, in a supportive context, and with a representative of the population" (p. 238). She found that the nature and quality of experience was an important factor in attitude change. Working with people who have mental illness was superior to tours or facility visits alone. In fact, she found that "partial exposure may be detri-

mental" (p. 245) to students' attitudes even when compared to a no exposure, education only group.

Although Wallach (2004) provided convincing evidence that education and experience are important factors in reducing negative perceptions and attitudes, we observed some methodological concerns with her study. First, students in the psychopathology class self-selected to work in the facility, to visit facilities, or to do neither. Those who volunteered were excused from writing a term paper. Second, Wallach noted that those who chose to volunteer had lower authoritarian attitudes (the belief that mental health patients were inferior) throughout the experiment so there may have been different perceptions and attitudes in these students from the onset. Third, Wallach offered few details regarding the volunteer students' experiences or their perceptions of the service activities. Finally, her control group consisted of students from a survey course in psychology while those students in the experimental group were enrolled in a course in psychopathology. Survey courses are typically lower division classes taken predominantly by newer students while psychopathology courses typically serve more advanced students. The difference in educational experience may have influenced Wallach's results as well. Despite these areas of concern, her findings are compelling and may provide a basis for improved stigma-reducing educational programs that include didactic instruction, introduction and orientation to mental health programs and facilities, and more importantly, the chance to volunteer for and/or with people who have mental illness. One such educational package might be realized through incorporating a service-learning component into the core curriculum of a college course in psychopathology.

Service-learning is fundamentally different from volunteer work because it ties community service to an established curriculum in a way that elicits reciprocity between the community group or agency being served and the student (Kretchmar, 2001). Common definitions of learning encompass the idea of change in one's behavior or attitude (e.g., Catania, 1998). Service-learning provides one such process by which learning (change in attitude and/or behavior) can take place. In part, service-learning involves active application and integration of theoretical and factual information. The effects of service-learning appear to generalize across many domains and be robust in producing attitudinal shifts (e.g., Astin & Sax, 1998).

Service-learning includes a reflective process and active integration of the experience back into an academic course, often times in the form of a paper or report (Levinson, 1990). Students become active learners in the most experiential way. Studies have demonstrated that as students engage in service-learning their classroom-based learning is reinforced and solidified in real-world settings. The literature is replete with positive student outcomes including intellectual growth, academic achievement, and enhanced civic responsibility. Service-learning also effectively reduces generalized stereotypes, biases and prejudices (Erickson & O'Conner, 2000; Levinson, 1990; Rubin & Lannutti, 2001), and toward specific groups of people such as the elderly (e.g., Bowden & Roodin, 2001; Karasik, 2007), the impoverished (e.g., Davidson, 2009) the homeless (e.g., Feen-Calligan, 2008), and the racially and internationally diverse (e.g., Carney, 2004).

While not labeled *service-learning*, psychology, as a science, has long recommended a hands-on, experiential approach to educational (APA, 1993; Dewey, 1938). Many other disciplines are similar in their engaged pedagogical approach. Courses designed to educate people about mental illness and to help reduce stigmas are needed in many different educational subjects. However, there is a paucity of literature describing how this is done and very little inquiry into whether such an activity can help soften stigmas toward those with mental illness.

The purpose of this research was to investigate and report the impact of a service-learning course as a method of softening the negative stigma individuals have toward the mentally ill. Based on the literature review above, we hypothesized that at the conclusion of a service-learning course in psychopathology, service-learning participants would report more positive attitudes toward those with mental illness than students in a control condition.

Method

Participants

Of the 72 participants enrolled in three upper division psychology courses (Motivation and Emotion, Psychometrics, and Abnormal Psychology) at a medium-sized Western university, 54 completed this study. There were 16 men and 37 women (one participant did not identify his or her sex). There were 2 (4%) First year students, 4 (7%) Sophomores, 15 (28%) Juniors, and 30 (56%) Seniors. Thirty three (61%) were Psychology majors, 4 (7%) were Criminal Justice majors, and 4 (7%) were majoring in Nutrition. The remaining students represented various disciplines across all 5 academic colleges of the university. The experimental group consisted of 20 participants (7 men and 13 women, M age = 23.6 years), and the control group was made up of 34 students (9 men and 25 women, M age = 22.3 years). All identified themselves as Caucasian (95%) or Hispanic (5%). The percentage of Psychology

majors and non-Psychology majors was equal for each group.

Materials

The Community Attitudes to Mental Illness (CAMI) scale (Taylor & Dear, 1981) is a 40-item scale measuring community attitudes toward those who have mental illness on a 5-point likert-type scale (1=Strongly Disagree, 5= Strongly Agree). The CAMI was derived from two widely-used instruments, the Opinions about Mental Illness (OMI) scale (Cohen & Struening, 1962) and the Community Mental Health Ideology (CMHI) scale (Baker & Schulberg, 1967). Specifically, the CAMI examines respondents' authoritarian attitudes toward those with mental illness, attitudes toward social restrictiveness, benevolence toward the mentally ill, and community mental health ideology. Original work on the CAMI revealed a 4-factor structure with a substantial degree of correlation between the factors. The factors accounted for 42 percent of the total variance. Coefficient *Alpha* reliabilities for the factors ranged from .68-.88 (Taylor & Dear). Subsequent work by Wolff, Pathare, Craig, and Leff (1996) found a three-factor solution to be the most appropriate. They labeled the factors, *Fear and Exclusion*, *Social Control*, and *Goodwill*.

Literature reports on the CAMI contain inconsistent evidence for both 3 and 4 correlated factors, each with modest amounts of reliability. For this study we reverse scored selected items so that higher scores reflected more negative attitudes toward those with mental illness. In essence, we computed a score reflecting respondents' generalized negative attitudes toward those with mental illness. The Cronbach's *Alpha* coefficient for this 40-item scale was .90 with all items having item-total correlation coefficients ranging from .04 to .66. The Cronbach's *Alpha*-if-Item-Deleted figures showed that each item contributed to the overall reliability of the scale.

We then factor analyzed the CAMI items and, after examining the scree plot, derived a three factor solution very similar to what Wolff et al. (1996) reported. The three factors accounted for 40% of the total scale variance (compared with Wolff et al.'s reported 37.3%). Factor 1 accounted for 22.6% (compared with 29.3%), factor two accounted for 9.2% (compared with 4.8%), and factor 3 accounted for 6.2% of the total variance (compared with 3.3%). We examined item loadings on each factor and found consistency between our data and Wolff's reported factor structure. Factor 1 related to attitudes of fear and exclusion and it loaded heavily on items such as: "It is frightening to think of people with mental problems living in residential neighborhoods," and "Local residents have good reason to resist the location of mental health services in their neighborhood".

Factor 2's main theme was having a compassionate and empathizing view of those who have mental illness. This factor loaded heavily on items such as: "We need to adopt a more tolerant attitude toward the mentally ill in our society," "The mentally ill have for too long been the subject of ridicule," and "The mentally ill should not be treated as outcasts of society." These items were reverse coded so higher scores reflect a less compassionate and empathizing attitude.

Factor 3's theme seemed to relate to social control and a desire to relegate those who have mental illness to isolation. It consisted of items such as: "As soon as a person shows signs of a mental disturbance, he should be hospitalized," and "The mentally ill should be isolated from the rest of the community."

The CAMI factors subsequently included in this study were a 14-item *Fear and Exclusion* factor, a 13-item *Lack of Good Will* factor, and a 13-item *Social Control and Isolation* factor. Each factor had good internal consistency with Coefficient *Alpha* reliabilities of .87, .82, and .79 respectively.

In addition to the CAMI, all participants provided demographic information and answered items pertaining to their exposure to or experience with people who have mental illness. Participants endorsed whether or not they had an immediate family member who had been diagnosed with/or treated for a mental disorder (*Family*), and if they had ever worked for an agency treating people with mental disorders (*Work*).

We explored the effect of the service-learning course in Abnormal Psychology on the results of the three CAMI factors across two different variables: Group membership (Service-Learning or Control) was coded as the *Group* variable. The three CAMI factor scores at the onset of the study compared to the factors scores at the conclusion of the study were identified by the variable name *Time*.

Participants in the experimental group completed a 6-item Service-learning Experiences (S-LE) survey designed for this study. Survey items asked students' opinions of their service-learning experiences, whether the experiences were effective in helping them learn course material, and if they noted any change or alteration in their attitudes or perceptions of people with mental health issues. Participants responded to two items asking them to rate the overall experience with the service-learning project on a 1-7 scale with 1 being "Poor" and 7 being "Excellent." The remaining 4 items asked about specific components of the assignments (reflection, literature review) and the overall impact (did it help to understand and modify biases, and was it impactful in helping respondents view people with mental illness more positively). These four items used a 5 point-lik-

Table 1
CAMI Factor Loading and Cronbach's Alphas for N = 74 Students

Factor 1 Fear and Exclusion	Factor Loading
It is frightening to think of people with mental problems living in residential neighborhoods.	.86
*Residents have nothing to fear from people coming into their neighborhood to obtain mental health services.	.79
*Locating mental health services in residential neighborhoods does not endanger local residents.	.73
*Less emphasis on should be placed on protecting the public from the mentally ill.	.66
A woman would be foolish to marry a man who has suffered from mental illness, even though he seems fully recovered.	.63
Having mental patients living within residential neighborhoods might be good therapy, but the risk to residents are too great.	.62
I would not want to live next door to someone who has been mentally ill.	.59
*Mental illness is an illness like any other.	.48
Local residents have good reason to resist the location of mental health services in their neighborhood.	.48
Anyone with a history of mental problems should be excluded from taking public office.	.47
*The mentally ill are far less of a danger than most people suppose.	.36
*Residents should accept the location of mental health facilities in their neighborhood to serve the needs of the local community.	.34
The mentally ill don't deserve our sympathy.	.31
*Most women who were once patients in a mental hospital can be trusted as babysitters.	.29
	Cronbach's *Alpha* = .87
Factor 2 Lack of Good Will	
*We need to adopt a far more tolerant attitude toward the mentally ill in our society.	.82
*The mentally ill have for too long been the subject of ridicule.	.77
*The best therapy for many mental patients is to be part of a normal community.	.70
*We have a responsibility to provide the best possible care for the mentally ill.	.67
*The mentally ill should not be treated as outcasts of society.	.61
*Mental patients should be encouraged to assume the responsibilities of normal life.	.54
*The mentally ill should not be denied their individual rights.	.53
*Virtually anyone can become mentally ill.	.50
*As far as possible, mental health services should be provided through community based facilities.	.46
*No one has the right to exclude the mentally ill from their neighborhood.	.44
*Our mental hospitals seem more like prisons than places where the mentally ill can be cared for.	.36
*More tax money should be spent on the care and treatment of the mentally ill.	.31
The mentally ill should not be given any responsibility.	-26
	Cronbach's *Alpha* = .82
Factor 3 Social Control and Isolation	
Mental patients need the same kind of control and discipline as a young child.	.69
There are sufficient existing services for the mentally ill.	.64
As soon as a person shows signs of mental disturbance, he should be hospitalized.	.60
The mentally ill are a burden on society.	.53
There is something about the mentally ill that makes it easy to tell them from normal people.	.51
Locating mental health facilities in a residential area downgrades the neighborhood.	.47
The mentally ill should be isolated from the rest of the community.	.45
It is best to avoid anyone who had mental problems.	.44
Increased spending on mental health services is a waste of tax money.	.43
The best way to handle the mentally ill is to keep them behind locked doors.	.40
Mental hospitals are an outdated means of treating the mentally ill.	.38
Mental health facilities should be kept out of residential neighborhoods.	.38
One of the main causes of mental illness is a lack of self-discipline and will power.	.34
	Cronbach's *Alpha* = .79

Note: * Items are reverse scored

Table 2
Service Learning Experiences Item Mean Scores and Item-Scale Correlations for N = 25 Students

Scale Items	Item Mean	Item SD	Item-Scale Correlation
Please rate your overall experience with the service-learning project in this class.	6.3*	1.1	.81
Please rate how effective the service-learning project was in helping you learn about people who have mental illness.	6.1*	1.2	.87
The reflection component of the service-learning project helped solidify my learning from this class.	4.5**	1.0	.79
The reflection component of the service-learning project helped me understand and modify biases and/or stereotypes I had against people with mental illnesses.	4.6**	.76	.84
The literature review was an important part of the learning that took place as a result of my service-learning project.	4.0**	1.2	.82
I feel that the service-learning project helped my views and perceptions of people with mental illness become more positive.	4.8**	.72	.84

Notes: Scale score out of 7 *
Scale score out of 5 **

ert scale with 1 being "Strongly Disagree" and 5 being "Strongly Agree." Each item was worded positively. The Coefficient *Alpha* reliability of the S-LE was .86 with strong item-total correlation coefficients.

Design

The experimental or Service-Learning (S-L) group consisted of students enrolled in a senior-level service-learning course in psychopathology entitled *Abnormal Psychology*. Students enrolled in this course had completed General Psychology as a prerequisite, and were naïve to the fact that the class included service-learning until the first day of the semester. This was the only section of Abnormal Psychology taught on campus during this semester, thus eliminating class or professor selection bias. The class is a popular elective course in our undergraduate degree program, and is a prerequisite for many graduate programs and professional degrees. Participants in the control group were enrolled in one of two upper division psychology courses which also required General Psychology as a prerequisite. We selected control classes of the same academic level (upper division) to equalize the overall amount of college experience between the two groups. The control classes we selected also were held at approximately the same time of the day as the experimental class, again, to further equalize potential bias between the two groups. Students in the control condition who had taken, or were currently taking, Abnormal Psychology did not participate in the study.

The service-learning course was carefully planned and implemented to be a high quality learning experience. We devoted a great deal of time and energy forming and cultivating professional working relationships with several community partners where the service-learning students volunteered. For the project, we developed tracking sheets, supervisor signature sheets, and formal letters introducing service-learning principles to community partners. We also spent class time discussing ethical issues such as confidentiality, professional conduct and expectations, and vulnerabilities when working with people with mental illnesses. We wrote a service-learning liability statement. Finally, we took the first two days of class to thoroughly review the project. During the semester, we made frequent contacts with community partner sites to see how the students were doing.

Procedure

Both groups completed the CAMI during the first and 13th week of the semester-long course. The S-L group also completed the S-LE after the 13th week. Between the first and second administration of the CAMI, students in the S-L group participated in a service-learning project related to material covered in class. Specifically, students began by writing an 8-page literature review on a topic related to the course. Information for the review was to be gleaned from at least 5 articles from professional journals or published books. Upon completion, students engaged in some form of organized and formal service for or with individuals (or groups of people) dealing with some of the conditions described in their literature reviews. The assignment required a minimum 10 hours of direct contact service. Students were free to do all of the hours within a few days or to work fewer hours per week for a longer period of time. There seemed to be a good mix of both scenarios. In most cases, the community agency determined the nature and extent of the services rendered. Some students served people who were not affiliated with mental health agencies. In

these cases, we worked with students to outline the type of service they provided. The course syllabus instructed students to focus on relating the experience they had in their service activities back to course content and to pay particular attention to the attitudes, biases, and stereotypes they had about those with mental illness before their learning activity and how those attitudes may have changed afterward. At the end of the 13th week of class students submitted a portfolio documenting their service-learning experience. The portfolio contained their literature review, documentation of their service contributions, and a thoughtful reflective paper describing what they learned from the entire experience.

Our initial hypothesis was that participating in service-learning would reduce negative stigmas and increase positive attitudes toward those with mental illness. To test for effects of service-learning participation, we examined a number of variables including CAMI score differences between the service-learning and non-service-learning groups

Results

Demographic Data

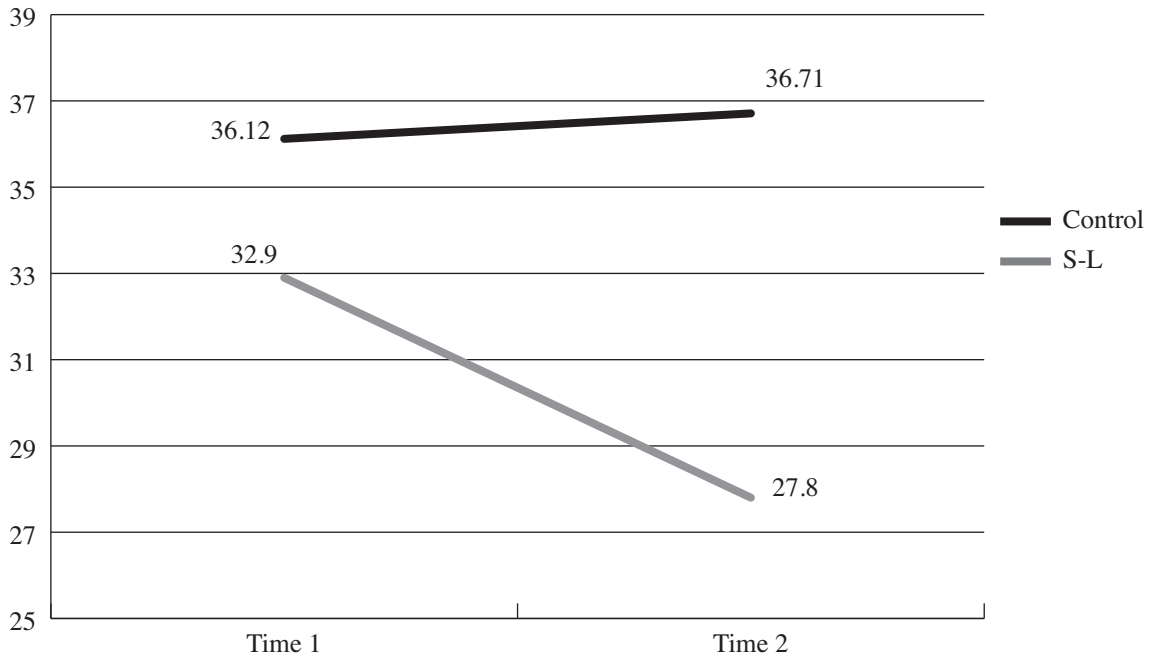
The control and S-L groups were statistically similar in age. Chi-Square contingency tests found no statistically significant difference between the two groups for Sex, Work, or Family variables.

CAMI Data

Independent sample *t*-tests revealed that, at the beginning of the study, mean scores on each of the three factors of the CAMI did not differ between men and women, those who completed the study and those who did not, or for those participants who reported working at mental health facilities versus those who did not. Mean CAMI scores were further compared for students who reported having versus not having familial experience with mental illness. No significant group differences were found on the Fear and Exclusion and Lack of Good Will factors. However, students with familial experience had lower scores on the Social Control and Isolation factor (M = 27.67, SD = 6.25) than those who reported no familial experience (M = 30.74, SD = 5.46; t (68) = -2.18, p = .033).

To test the effect of the service-learning experience on attitudes toward people with mental illness, we computed three 2-way mixed ANOVAs, one for each factor of the CAMI. The first factor was Group (S-L vs. control; between subjects). The second factor was Time (1st vs. 13th week; within subjects). For Fear and Exclusion we found significant main effects for

Figure 1
Pre and Posttest Mean Scores of Two Groups of Students on the CAMI Factor 1 Scale Measuring Fear and Exclusion



both *Group* and *Time*, but these were qualified by a significant interaction effect $F(1,52) = 12.63$, $MS_e = 16.14$, $p = .001$, $\lambda^2 = .20$ (See Figure 1). To further explore the nature of the interaction, we calculated the simple main effect of *Group* within time using independent t-tests. The control and S-L groups did not differ from each other at time 1. However, the mean Fear and Exclusion score for the S-L group was significantly lower than the mean for the control group at the 13 week follow up, $t(52) = -4.47$, $SE_{difference} = 1.88$, $p < .001$. Students in the SL group were less likely to be fearful of people with a mental illness and less inclined to endorse their separation from the rest of society after their service-learning experiences.

We found similar results for the Lack of Good Will Factor. Both main effects were significant, as was the interaction effect, $F(1,53) = 11.01$, $MS_e = 12.31$ $p = .002$, $\lambda^2 = .17$ (see Figure 2). Tests of the simple main effect of *Group* within *Time* showed that the control and S-L groups were not significantly different at the beginning of the experiment but the mean for the S-L group was significantly lower than the Control group at the conclusion of the study, $t(53) = -4.50$, $SE_{difference} = 1.37$, $p < .000$. Participants in the S-L group endorsed more feelings of good will and tolerance toward people with mental illness.

The results were consistent for Factor 3, Social Control and Isolation. Neither main effect was significant, but the interaction effect was, $F(1,53)$, $= 7.85$, $MS_e = 11.06$, $p = .007$, $\lambda^2 = .13$ (see Figure 3). Once again, the simple main effect of *Group* x *Time* followed the identical pattern. The S-L and control groups were not significantly different at the beginning of the study. However, the mean scores for the S-L group were significantly lower than the Control group at the conclusion of the experimental period, $t\ (53) = -3.47$, $SE_{difference} = 1.51$, $p < .001$. Participants in the SL group were less inclined to endorse efforts to control or isolate people who have mental illnesses.

Service-Learning Experiences Data

Twenty-five students in the S-L group completed the S-LE along with the CAMI at the conclusion of the 13 week project. Their S-LE scores ($M = 6.3$, $SD = 1.1$) and ($M = 6.1$ $SD = 1.2$) out of a possible score of 7 on items #1 and #2 indicated that they considered their overall experiences "Excellent" in nature. Similarly, their scores (out of 5) on the item asking whether the reflection component helped solidify their learning ($M = 4.5$, $SD = 1.05$), the item asking whether the project helped them understand and/or modify biases or stigmas they had toward the mentally ill ($M = 4.6$, $SD = .76$), the item asking whether the literature review was an important part of their learning ($M = 4.0$, $SD = 1.24$), and the item asking whether the project helped their views about people with mental illness become more positive ($M = 4.8$, $SD = .72$) all suggest that each component of the project was effective.

Discussion

As predicted, students in the service-learning class showed significant reductions in negative attitudes toward mental illness and the mentally ill across all three CAMI factors, while scores for students in the control condition remained unchanged. The fact that students in both the control and S-L conditions were similar in age, sex, years in school, academic majors, work experience with people who have mental illnesses, the number who had immediate family members with mental health diagnoses, and initial CAMI factor scores makes these findings even more compelling. These data provide evidence that reduction in stigma is possible in educational settings, especially in those settings in which curricular-based learning is combined with community service and a formalized reflection process.

In this study the self-reported negative attitudes toward those with mental illness declined significantly more among the college students enrolled in an upper division service-learning course in Psychopathology over those college students enrolled in two other upper division psychology courses. Similar results have been reported by others (e.g., Wallach, 2004), but this study addresses some of the methodological issues noted earlier. In this study students were not self-selected into various pedagogical groups within the experimental S-L and control courses. Students in both groups were comparable in age, gender, and educational experience. Moreover, the participants in both groups had similar pre-class experience working with people who have mental illness. These equivalencies minimize some of the sources of error that could have explained the variability observed in the Wallach study. This is substantiated by the relatively strong estimates of the partial eta squared effect size we reported above (Miles & Gilbert, 2005).

The findings of this study support the broader theoretical constructs of service-learning – that service-learning is a useful activity and an effective method of learning. Further, this study indicates that service-learning can be a useful method of reducing stigma toward the mentally ill. The outcomes of service-leaning as reported in this study may be explained by several social psychological theories. For example, the changes in attitudes among those participating in service-learning could have occurred because of a dissonance-reducing action, similar to that proposed by Aronson and others (see Aronson & Patnoe, 1997

Figure 2
Pre and Posttest Mean Scores of Two Groups of Students on the CAMI Factor 2 Scale Measuring Lack of Good Will

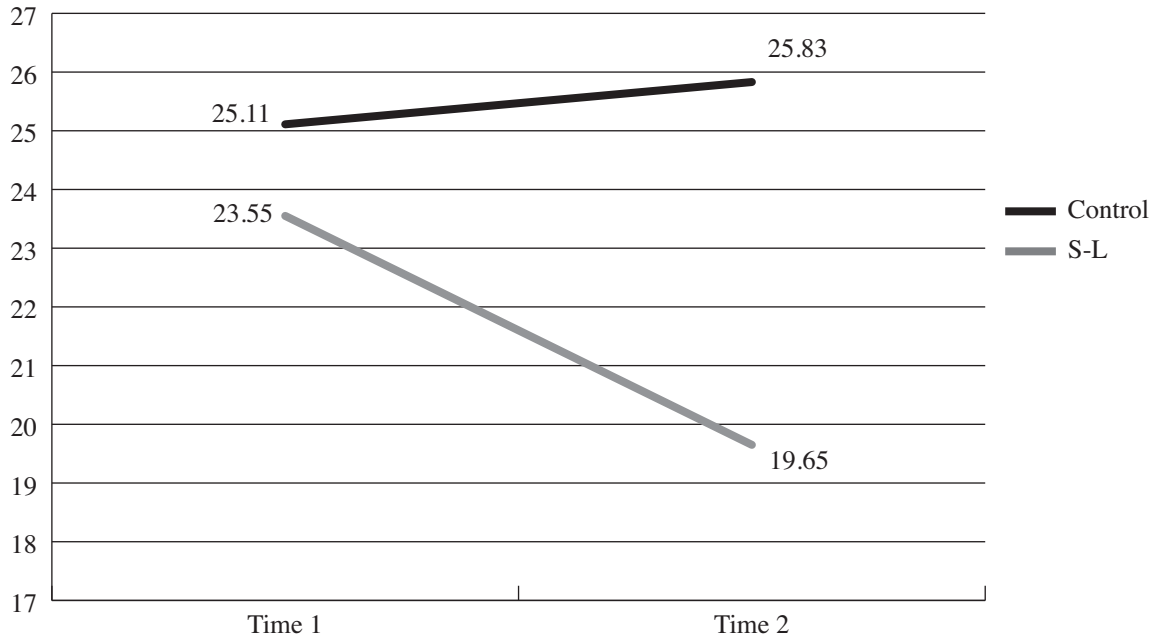
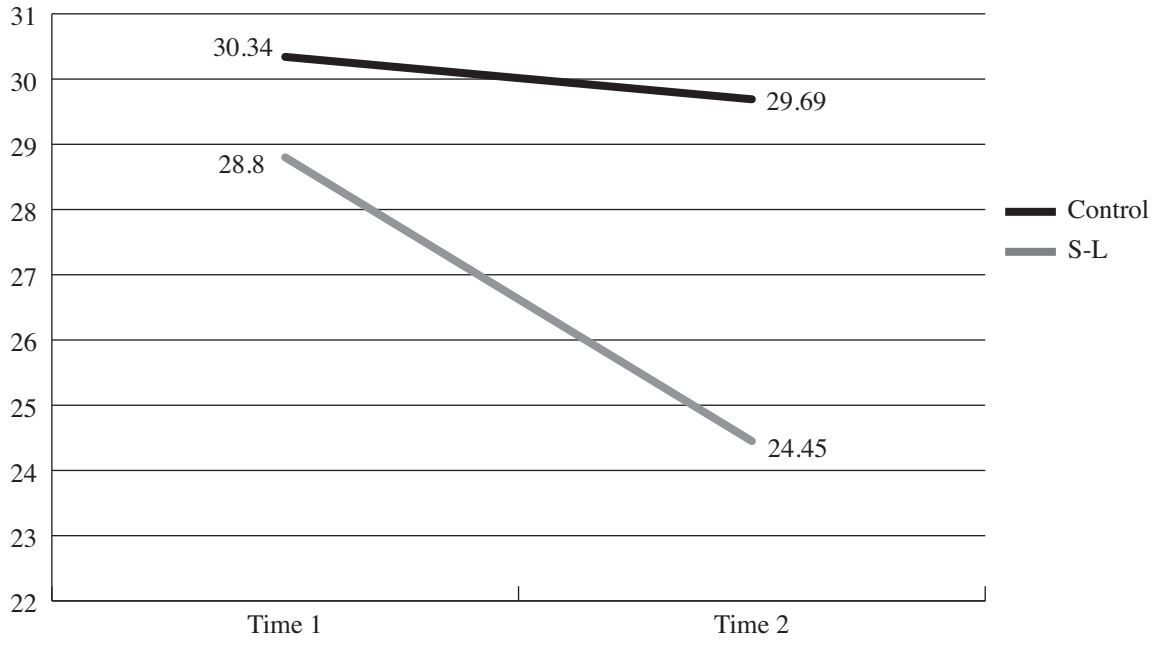


Figure 3
Pre and Posttest Mean Scores of Two Groups of Students on the CAMI Factor 3 Scale Measuring Social Control and Isolation



for a review); a mere exposure effect, such as that proposed by Zajonc (1968); or perhaps because of a process of interpersonal contact, such as that proposed by Allport (1954).

Although each of these theories could account for the shifts in attitude change, we favor Aronson's approach. Aronson and his colleagues' research indicated that while exposure and contact were important components of prejudice reduction, these alone were insufficient to produce significant shifts in substantive attitude change. He and his colleagues indicated, through a series of studies and interventions, that interdependence of individuals is a central factor in reducing prejudice. We believe that a similar situation of interdependence is set up in a service-learning experience. Specifically, those who receive the service (in our study, those who are mentally ill) typically need the service rendered, and those giving the service (in our study the students) depend on the recipients to fulfill their course requirement. All parties are essential to the experience, ameliorating many of the social roles and expectancies involved in stereotypic thinking and attitudes. Further studies seeking to verify this theoretical explanation are needed.

Service-learning integrates volunteer service with course content. The analyses reported above suggest that the impact of this educational strategy is substantial. However, this study is not without methodological challenges. The sample size was limited and participants were quite homogenous in nature. To broaden the applicability of these findings, future researchers should include more participants from diverse backgrounds. Another potential factor influencing our results could be social desirability among those students in the SL group. Since both groups completed pretesting and posttesting, the effects of social desirability may have been stable across groups through the duration of the study. However, adding a measure of this dimension to act as a potential covariate could enhance future studies. Expanding this research to include additional instructors at other institutions is important to establish the external validity of these findings. Finally, we do not know how long lasting the effects of the service-learning experience might be. Longitudinal work in this area may glean important insights.

Another issue might be the generalizability of our findings. This project occurred within the context of an upper division psychology course in Psychopathology. Additional research is needed to explore if these same effects could be gleaned from related classes in other disciplines. We believe that this type of project could easily be adapted for a wide array of courses containing content regarding people with mental illness. A few examples include sociology courses in deviance, courses in human genetics, training programs for law enforcement officers, classes for future medical practitioners, and educational programs for social workers.

While these methodological issues and logistical problems are challenging, the current results are promising and may provide some encouragement that modifying stigma is possible. The World Health Organization (WHO) estimated that in 1990 the cost to society for mental illness in the United States alone was $150 billion dollars per year (2003). These expenditures include costs for treatment, prevention, and indirect costs (justice system and lost productivity). They noted that in some developed countries between 35 to 45% of work absenteeism is due to mental health related issues. Much of these costs are borne by the general public rather than health care organizations or insurance companies (Knapp, 2003). Because of negative attitudes, stigmas, and stereotypes, those with mental illnesses have been hesitant, and sometimes resistant to seeking effective treatment, adding to the financial burden. However, it is very difficult to put a dollar figure on the human capital costs associated with inadequately treated mental illness. As a society, it would seem beneficial to seek ways to reduce stigma and open treatment doors to those in need. Reducing negative stigmas could also serve to augment the money devoted to researching and developing new and improved treatments. One way to reduce stigma and to affect future generations is through effective educational programs in our systems of higher education. Incorporating service-learning into relevant course curricula may contribute to this goal.

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